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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/855,905	05/14/1997	MASAAKI YAMANAKA	443-17	2320
28249 7590 03/15/2007 DILWORTH & BARRESE, LLP 333 EARLE OVINGTON BLVD. SUITE 702 UNIONDALE, NY 11553			EXAMINER KRUER, KEVIN R	
			ART UNIT 1773	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE			MAIL DATE	DELIVERY MODE
3 MONTHS			03/15/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

08/855,905

Applicant(s)

YAMANAKA ET AL.

Examiner

Kevin R. Kruer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 28-49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 28-49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1 and 28-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takashi et al. (US 4,318,950) and further in view of Ohba et al. (US 5,233,924) and European Patent 0 613 919 A1 (herein referred to as Ueda).

Takashi discloses that it is well known in the art to make synthetic papers comprising oriented thermoplastic laminates. Inorganic fillers may be added to the thermoplastic resin prior to stretching in order to roughen the surface and render the film receptive to pencil, pen, and crayon markings (col 1, lines 19-46). It is also well known in the art that antistatic properties are desired in synthetic paper products.

Takashi teaches that a composition comprising inorganic fillers and a propylene matrix (col 7, line 63) are useful in making synthetic paper. Inorganic fillers comprise 0.5%-65\*% of the composition (col 7, lines 8-10) and may be selected from the group consisting of calcium carbonate, silica, talc, titanium oxide, and clay (col 7, lines 1-4). The composition may further comprise an anti-static agent (col 8, lines 20-60, and the examples). Such agents are commonly added to synthetic papers in order to make the film more ink receptive during printing. The polypropylene composition containing inorganic filler is uniaxially oriented at least 2.5 times the original dimension, and possibly as high as 16 times the original dimension (col 5, lines 8-17). It is well known in the art to orient the film at a temperature lower than the melting point of the

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polypropylene resin. The film is stretch so that the void content is between 10-65% (claim 1, equation is in Table VIIN col 17). The stretched film may be surface treated with corona discharge treatment at a voltage of 3,000 to 30,000 volts and a current of 0.5 to 5 amperes (col 4, lines 41-51). The polypropylene composition may be laminated to a biaxially oriented backing film layer (abstract). The thickness of such a laminate may be 30-140um, wherein the polypropylene composition has a thickness of 10-100um (Table IV, col 14).

With respect to the gloss limitation of claim 1, all the examples taught in Takashi have a gloss of 60% or less (see Tables VII (a) and VII(b)).

With regard to the opacity limitation of claim 1, Takashi does not teach the desired level of opacity of a synthetic paper. However, Ohba teaches a synthetic paper comprising a polyolefin matrix tilled with inorganic filler, wherein the opacity of the film is desirably at least 80% (abstract) because such an opacity is sufficient for writing with a pencil (col 1, lines 6-12). Therefore, the examiner takes the position that it would have been obvious to one of ordinary skill in the art to alter the opacity of the film taught in Takashi so its above 80% because such an opacity is sufficient for writing with a pencil.

Takashi teaches the use of an anti-static agent in a synthetic paper polypropylene composition, but does not teach the claimed antistatic composition. However, Ueda teaches an antistatic which may be utilized in a polypropylene composition (page 9, lines 34-42). The composition taught in Ueda comprises:

component A: a polyolefin resin (55-95% by weight of the total composition)

component B: a polyetheresteramide antistatic agent (3-40% by weight)

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Component C: a polyamide resin (1-20% by weight), and

Component D: a compatilizer (0.2-20%)

The polyetheresteramide is derived from a polyamide oligomer having a number average molecular weight of 300 to 3,000 and which contains carboxyl groups at each end and an alkylene oxide adduct of bisphenol having a number average molecular weight of from 300 to 5,000 (claim 1). For example, the polyetheresteramide can be synthesized from an s-caprolactam, an ethylene oxide adduct of bisphenol & and adipic acid (page 12, example 1). Furthermore, Iz-aminodecanoic acid may be used as the polyamide oligomer in place of the s-caprolactam (page 3, lines 21-29). Ueda teaches that polyetheresteramides having aromatic rings as component B have a reduced viscosity of from 0.5 to 4.0 in 0.5 % m-cresol solution at 250C (page 4, lines 21-24). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the antistatic agent taught in Ueda in the synthetic paper taught in Takashi because the polyetheresteramide is known to be compatible with polypropylene, heat resistance, maintains its antistatic properties permanently (abstract), and does not rinse away in the presence of water.

Furthermore, it would have been obvious to utilize the polyetheresteramide in the amounts taught in Ueda because Ueda teaches that such amounts are sufficient for providing polypropylene matrixes with antistatic properties. Ueda further teaches that the polyamide of component C increases the surface orientation of the polyetheresteramide (col 6, lines 38-47). The polyamide is selected from the group consisting of nylon 66, nylon 69, nylon 601, nylon 612, nylon 6, nylon 11, nylon 12, and

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nylon 46 (page 5, lines 21-22). Preferably the polyamide resin has a reduced viscosity of from 0.8 to 5 in 97% sulfuric acid (concentration 11100m1) at 30OC (page 5, lines 22-25). Thus, it would have been obvious to one of ordinary skill in the art to add sufficient amounts of the polyamide taught in Ueda to the synthetic paper taught in Takashi in order to increase the surface orientation of the polyetheresteramide.

Ueda also teaches that a compatilizer is preferably utilized in order to improve compatibility with the resin, prevent interlaminar peeling of molded articles obtained, and improve the mechanical strength and appearance of the final product (col 6, lines 55-61 ). When polypropylene is utilized as the thermoplastic matrix, preferred compatilizers include (a) an acid modified low molecular weight polyolefin having a number average molecular weight of from 800-25, 00 and an acid number of from 5-150, (b) a hydroxy modified low molecular weight polyolefin having a number average molecular weight of from 800 to 2. 5,000 and a hydroxy value of from 5 to 150, and c) an ester modified low molecular weight polyolefin obtained by partly or wholly esterifying an acid modified low molecular weight polyolefin with a polyoxyalkylene compound and having a number average molecular weight of from 1,000-28,000 (page 7, lines 21-29). Such a compatilizer may be obtained by reacting a low molecular weight polyolefin having a number average molecular weight from 700 to 20,000 with an unsaturated acid selected from methacrylic acid, maleic acid, maleic anhydride, fumaric acid, itaconic acid, itaconic anhydride, and citraconic anhydride (page 7, lines 30-39). The resulting product can be reacted further a) with an aliphatic amine selected from monomethanolamine, monoisopropanolamine, diethanolamine, and diisopropanolamine

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(page 7, lines 48-52), or b) by esterifying part or all of the carboxylic acid moieties of the modified low molecular weight polyolefin with a hydroxylated polyoxylalkylene compound (page 7, line 53 - page 8, line 9). The examiner takes the position that it would have been obvious to one of ordinary skill in the art to incorporate the compatilizers taught in Ueda in their taught amounts into the synthetic paper taught in Takashi in order to improve compatibility with the resin, prevent interlaminar peeling of molded articles obtained, and improve the mechanical strength and appearance of the final product (col 6, lines 55-61).

### ***Response to Arguments***

Applicants' arguments filed January 31, 2007, have been fully considered but they are not persuasive.

Applicant argues the claimed invention comprising a film with specific components that is stretched and oxidized results in favorable antistatic properties and improves the printing ink adhesion of the film. The examiner initially notes that applicant has not cited evidence to support the arguments presented. Thus, no patentable weight can be given to the argument. Furthermore, it is noted that the benefits noted by applicant are obvious in view of the prior art-as detailed in previous Office Actions.

Applicant argues the non-obviousness of the present invention is indicated by the side-by-side comparison of the present invention to those of Takashi in the fourth supplemental declaration. Applicant argues that the results make it clear that the present invention cannot be achieved by "changing only the kind and amount of the anti-static agent" in the synthetic paper of Takashi. It is not clear from where applicant

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is quoting. Furthermore, it is noted that the effects of the present invention were considered to be obvious and unexpected in view of the prior art. With regards to experiments 2 and 4, the examiner noted that said experiments could not be utilized to establish unexpected results because more than one variable was altered in each experiment. Contrary to applicant's argument, this statement does not "directly contradict" the examiner's conclusion that the present invention is obvious over the cited art. The effects of the variables are obvious to the extent that the prior art has taught. If applicant argues that experiments 2 and 4 show an effect that is not taught in the prior art (aka a non-obvious effect) such an argument would not be persuasive due to the alteration of multiple variables in said experiments.

For the reasons noted above, the rejections are maintained.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

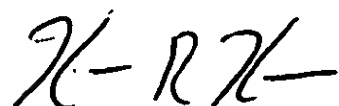


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin R. Kruer whose telephone number is 571-272-1510. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kevin Kruer

Patent Examiner-Art Unit 1773